AMENDMENTS TO THE CLAIMS

Listing of Claims

Claims 1 to 3 canceled.

4. (currently amended) ~~The method according to claim 3,~~ A method for controlling at least one of an automated clutch and an automated transmission in a motor vehicle, wherein the method is performed by an electronic clutch management system and comprises the steps of:

determining a start-up function that depends on predetermined input parameters which include at least one of the group consisting of accelerator pedal angle, engine rpm-rate, transmission input rpm-rate, and engine torque;

delivering a target value for a clutch torque as an output parameter of the start-up function;

dividing the start-up function substantially into at least two phases by means of a factor calculation, wherein in a first phase of said two phases the engine rpm-rate is substantially ~~matched~~ regulated to follow a targeted ~~target value (a_start) of a~~ starting rpm-rate ~~in order to regulate the starting rpm-rate~~, and in a second phase of said two phases, the engine rpm-rate is synchronized with the transmission input rpm-rate.

Claims 5 to 7 canceled

8. (currently amended) ~~The method according to claims 7, wherein one of said plurality of contributions comprises~~ A method for controlling at least one of an automated clutch and an automated transmission in a motor vehicle, wherein the method is performed by an electronic clutch management system and comprises the steps of:

determining a start-up function that depends on predetermined input parameters which include at least one of the group consisting of accelerator pedal angle, engine rpm-rate, transmission input rpm-rate, and engine torque;

delivering a target value for a clutch torque as an output parameter of the start-up function; wherein the step of determining the target value for the clutch torque comprises determining a torque contribution in accordance with a global control function, said torque contribution being determined as a combination of contributing factors that are functions of at least one of the transmission input rpm-rate and the engine rpm-rate and further include an engine-torque-dependent contribution (KME*Me).

9. (currently amended) The method according to claim 8, wherein said engine-torque-dependent contribution is weighted with an rpm-ratio ~~(SR) conforming to the equation~~ SR = n_trsm/n_eng, wherein n_trsm represents the transmission input rpm-rate and n_eng represents the engine rpm-rate, so that when synchronism is achieved at the clutch, the engine-torque-dependent portion is

substantially fully effective.

10. (original) The method according to claim 9, wherein the weighted engine-torque-dependent contribution (SR*KME*Me) is subject to a limitation of its time gradient.

11. (currently amended) The method according to claim 10, wherein said ~~plurality of contributions~~ combination of contributing factors is supplemented by at least one controller contribution in order to ensure the performance of phase-specific tasks in the start-up function.

12. (currently amended) The method according to claim 9, wherein at ~~lower~~ values of the rpm-ratio (SR) below 0.7 priority is given to regulating a start-up rpm-rate (n_start) in accordance with a target value and wherein said start-up rpm-rate is determined by means of a characteristic curve at least as a function of an accelerator pedal angle.

13. (original) The method according to claim 12, wherein the start-up rpm-rate is further processed through a filter.

14. (original) The method according to claim 13, wherein said filter comprises a low-pass filter.

15. (original) The method according to claim 13, wherein the filter is initialized with the engine rpm-rate (n_eng) if the engine rpm-rate (n_eng) in neutral gear considerably exceeds an idling rpm-rate.

16. (original) The method according to claim 11, wherein a weighted difference (f_1(SR)*(n_start - n_eng)) with a weight factor f_1(SR) being a function of the rpm-ratio (SR) is converted through a proportional/integrating controller into a contribution to a target value for the clutch torque (M_Rtrgt).

17. (currently amended) The method according to claim 9, wherein at ~~higher~~ values of the rpm-ratio (SR) above 0.6 priority is given to attaining synchronism and a proportional/integrating controller is used, wherein a weighted difference (f_2 (SR)*(n_eng - n_trsm)) with a weight factor f_2(SR) being a function of the rpm-ratio (SR) serves as an input signal to the proportional/integrating controller and is converted into a contribution to a target value for the clutch torque M_Rtrgt.

18. (original) The method according to claim 16, wherein a first weighted difference (f_1(SR)*(n_start - n_eng)) and a second weighted difference (f_2(SR)*(n_start - n_eng)) with weight factors f_1(SR) and f_2(SR) being functions of the rpm-ratio (SR) are each converted by their own proportional/integrating controller into a contribution to a target value for the clutch torque (M_Rtrgt), and

wherein the respective integrating portions of the two proportional/integrating controllers are implemented by a joint integrator.

19. (original) The method according to claim 18, wherein an additional integrator is used in addition to the joint integrator.

20. (currently amended) The method according to claim 19, wherein the additional integrator is arranged in series with the joint integrator, and wherein the additional integrator uses a ~~comparatively small~~ smaller amplification parameter (KI3) than the joint integrator.

21. (original) The method according to claim 19, wherein the target value for the clutch torque (M_Rtrgt) determined as the output quantity is subject to a limitation.

22. (original) The method according to claim 21, wherein in limiting the target value for the clutch torque (M_Rtrgt) at least in a first phase where the target value for the clutch torque (M_Rtrgt) is low, a new start-up function is matched to an existing start-up function, and the new start-up function is allowed to diverge from the existing start-up function only in a second phase where the target value for the clutch torque (M_Rtrgt) increases.

23. (currently amended) The method according to claims 22, wherein in limiting the target value for the clutch torque (M_Rtrgt), each integrator is subjected to a measure to avoid ~~the~~ a so-called wind-up.

24. (original) The method according to claim 23, wherein after limiting the target value for the clutch torque (M_Rtrgt), an integral portion (M_I) is calculated according to the equation:

M_I = M_Rtrgt_lim - M_glob - M_D + M_P1 + M_P2, wherein

M_Rtrgt_lim = limited target value for the clutch torque

M_D = damping torque portion

M_P1 = proportional torque portion of the proportional/integrating controller in the first phase, and

M_P2 = proportional torque portion of the proportional/integrating controller in the second phase.

25. (original) The method according to claim 24, wherein the damping torque portion (M_D) is used in determining the start-up function.

26. (original) The method according to claim 24, wherein the damping torque portion (M_D) is used in at least one of regulating the starting rpm-rate during the first phase and synchronizing the engine rpm-rate with a transmission rpm-rate during the second phase.

27. (original) The method according to one of claim 26, wherein at least one of the transmission input rpm-rate (n_trsm) and the engine rpm-rate (n_eng) is disregarded in determining the start-up function.

28. (original) The method according to claim 22, wherein a throttle-valve-dependent portion (K(α)) is used in determining the start-up function.

29. (original) The method according to claims 28, wherein the target value for the clutch torque (M_Rtrgt)conforms to the equation:
M_Rtrgt = K(α) * f(n_eng), wherein f(n_eng) represents a function of the engine rpm-rate.

30. (original) The method according to one of claim 29, wherein the time derivative of the clutch torque (M_Rtrgt) conforms to the equation:

$$\frac{d}{dt}M\_Rtrgt = f(n\_eng)*\frac{dK(\alpha)}{d\alpha}*\frac{d\alpha}{dt}+K(\alpha)*\frac{df(n\_eng)}{dn\_eng}*\frac{dn\_eng}{dt},$$

wherein n_eng represents the engine rpm-rate and K(α) represents the throttle-valve-dependent portion.

31. (original) The method according claim 30, wherein at least one of

the throttle-valve-dependent portion ($K(\alpha)$) and the engine-rpm-rate-dependent portion f(n_eng) is subject to a limitation of its respective time gradient.

32. (original) The method according to claim 31, wherein the time gradient $dK(\alpha)/dt$ is subject to a limitation designed to reduce the influence of $K(\alpha)$ in such a way that undesired accelerations of the vehicle are avoided.

33. (original) The method according to claim 30, wherein a drop in the target value for the clutch torque (M_Rtrgt) during an engine-load change as a result of an abrupt depression of the gas pedal is avoided by imposing a limitation on the time gradient ($dK(\alpha)/dt$).

34. (original) The method according to claim 30, wherein a sudden closing of the clutch during an engine-load change as a result of an abrupt let-up on the gas pedal is avoided by imposing a limitation on the time gradient ($dK(\alpha)/dt$).